

DART
AEROSPACEDart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-636-012
Job Sheet 175053**Part No:** D350-636-012**Job Qty:** 1 ea**Part Name:** Skidtube RH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.**Part Weight:** 0 lbs**Status:** Scheduled**Priority:** Medium**Job Created:** 3/27/18**Job Tracking No:****Due Date:** 4/18/18**Created By:** Michelle Gagnon-Donovan**Type:** SOLD**Description:**

Note: DWG D3492 REV E SHEET 1, D2750-042 REV G SHEETS 1,2,5,9 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07-13 As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23 revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD VERF:JLM

Ship Via:**Bill of Materials****DART**
AEROSPACEDart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com**Container No:** S062663**Part:** D350-636-012**Job No:** 175053**Serial No/Batch:** S062663**Revision:****Inspector:****Date:** 04/19/18

48 AM Dart.Gagnon.Michelle

Job Routing									
Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		4/17/18	0.00	0.00	Start Up Skidtubes-1		M6/1
110	Skidtubes	1 pcs		4/17/18	0.00	4.36	Skidtubes-4		M6/1 DAS BE
120	QC	1 pcs		4/17/18	0.00	0.00	QC10		38 DAS
130	QC	1 pcs		4/17/18	0.00	0.00	QC5		9-89 38
140	HandFinish	1 pcs		4/17/18	0.00	0.91	HandFinish1		SA 18-04-24
150	QC	1 pcs		4/17/18	0.00	0.00	QC7-2		BE
160	Skidtubes	1 pcs		4/17/18	0.00	4.36	Skidtubes-1		BE DAS J
170	QC	1 pcs		4/17/18	0.00	0.00	QC10		38 DAS
180	QC	1 pcs		4/17/18	0.00	0.00	QC5		9-89 38
190	HandFinish	1 pcs		4/17/18	0.00	0.91	HandFinish2		BE 18-05-29
200	SprayPaint	1 pcs		4/17/18	0.00	0.69	Spray Paint		N/A
205	Outsource	1 pcs		4/17/18			ATE003-VC	P01039865	AT 18/05/11
210	QC	1 pcs		4/17/18	0.00	0.00	QC14		AL 18-5-14
230	HandFinish	1 pcs		4/18/18	0.00	0.91	HandFinish4		BE 18-05-23
240	QC	1 pcs		4/18/18	0.00	0.00	QC5		38
250	Packaging	1 pcs		4/18/18	0.00	0.00	Packaging1-3		9-89 DAS
260	QC	1 pcs		4/18/18	0.00	0.00	QC4		58
265	DC	1 pcs		4/18/18	0.00	0.00	DC		9-89 DAS MAY 2 4 2018
270	Packaging	1 pcs		4/18/18	0.00	0.00	Packaging3-1		58
280	QC21-FG	1 Ea		4/18/18	0.00	0.00	QC21		9-89 MAY 2 5 2018

Part Op 110 - 1- Pick D2600-3 Bent Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & Descriptions: DT8863A for second side only DT8863B for first side (detail K) 4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE. 6- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297". 7- Open up holes of Detail J to 0.297" (total of 2 holes per side) 8- Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 9- Grind welds flush as per Dwg D2750

160 - 1- Open up holes of Detail L using hole saw and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750. 2- Open up holes of Detail K using hole saw to 0.750" (total of 4 holes per side) as per dwg D2750. 3- Open float holes using uni-bit to .500" (4 per Side) 4- Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9) 5- Deburr and blow out all chips from inside of tube 6- Prepare tube for welding, remove alodine as required. 7- Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291 batch: M138787 exp. date: DEC 2018 **ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)** 8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9) A/R Aluminum Rod batch: 038611 9- At section AP-AP drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D2750 11- Spot face ground handling holes section (total of 4 places per side) as per dwg D2750 12- Deburr holes, ensure tube is free of all scratches before sending to paint.

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____

210 - Inspect for foreign object per QSI 024

230 - 1-Install inserts as per dwg D2750 2-Inspect for Foreign Objects 3-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: M138787 EXP DATE: 18/12 4- assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: M135476 5-Coat all exposed fasteners with "LPS Procyon" batch: M133690

265 - record fwd angle: 89.8 Photocopy blue file and type labels per PPP D350-636-012 CHG 007

270 - Package as per PPP D350-636-012

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-RH	Extrusion Bent RH	1 Ea (1 ea)	90-Start up Operation	5043928
D2744	Cap	1 Ea (1 ea)	90-Start up Operation	508835
D2739	350 I-Beam	1 Ea (1 ea)	160-Skidtubes	5049038
D2743	Crossbolt Spacer	8 Ea (8 ea)	160-Skidtubes	5031803
D3490-1	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5039269
D3490-3	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5066284
ALS4-1032-225	Rivnut	38 Ea (38 ea)	230-HandFinish	5058138
AN3C5A	Bolt	34 Ea (34 ea)	230-HandFinish	5057153
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	5019397
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	FM137055
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	FM137283
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	5053257
* D3488-042	Blade Fitting RH	1 Ea (1 ea)	230-HandFinish	* 5070590
D3492-1	Plug	8 Ea (8 ea)	230-HandFinish	5052900
D3492-3 505303 (x6)	Plug	8 Ea (8 ea)	230-HandFinish	5067012 (x6)
D3535-25	Wearplate Center	1 Ea (1 ea)	230-HandFinish	5047127
D3536-25	Gasket Center	1 Ea (1 ea)	230-HandFinish	5059811
D3537-1	Wearpad	3 Ea (3 ea)	230-HandFinish	5045654
D3631-1	Washer	8 Ea (8 ea)	230-HandFinish	5058407
* D3791-1	Wearpad	1 Ea (1 ea)	230-HandFinish	* 5059894
D3793-1	Wearplate Fwd	1 Ea (1 ea)	230-HandFinish	5070803
D3793-3	Wearplate Aft	1 Ea (1 ea)	230-HandFinish	5047272
D3794-1	Gasket Fwd	1 Ea (1 ea)	230-HandFinish	5059813
D3794-3	Gasket Aft	1 Ea (1 ea)	230-HandFinish	5046244
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	5053037
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	5073370
NAS1149C0332R	Washer	38 Ea (38 ea)	230-HandFinish	5024481
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	5044236
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	M138469-121
NAS1611-010	O-Ring	8 Ea (8 ea)	230-HandFinish	5036711
NAS1611-013	O-Ring	8 Ea (8 ea)	230-HandFinish	5022098
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	5034467
D2741	Replacement Blade	1 Ea (1 ea)	250-Packaging	FM137162
D3493-1	Washer	2 Ea (2 ea)	250-Packaging	5040883
D3532-1	Spacer	2 Ea (2 ea)	250-Packaging	5058854
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	5016192
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	5050046
				P125635

003347

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2600-3-BENT-RH	1	8	0
	D2744	1	15	0
160-Skidtubes	D2739	1	25	0
	D2743	8	201	0
	D3490-1	4	64	0
	D3490-3	4	47	0
230-HandFinish	ALS4-1032-225	38	1,026	0
	AN3C5A	34	87	0
	AN3C6A	4	318	0
	AN6C44A	4	395	0
	AN8C35A	1	60	0
	D2745	8	201	0
	D3488-042	1	6	0
	D3492-1	8	187	0
	D3492-3	8	109	0
	D3535-25	1	17	0
	D3536-25	1	27	0
	D3537-1	3	144	0
	D3631-1	8	35	0
	D3791-1	1	13	0
	D3793-1	1	17	0
	D3793-3	1	25	0
	D3794-1	1	10	0
	D3794-3	1	38	0
	MS21043-6	4	170	0
	MS21083C8	1	166	0
	NAS1149C0332R	38	4,644	0
	NAS1149C0832R	1	85	0
	NAS1515H3L	4	243	0
	NAS1611-010	8	365	0
	NAS1611-013	8	261	0
250-Packaging	AN8C21A	2	141	0
	D2741	1	65	0
	D3493-1	2	60	0
	D3532-1	2	38	0
	MS21083C8	2	166	0
	NAS1149D0863J	2	147	0

Part Specifications

Specifications could not be found.

Plex 3/27/18 9:48 AM Dart.Gagnon.Michelle

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NO. 175053
MAR 27 2018

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2013-08-13

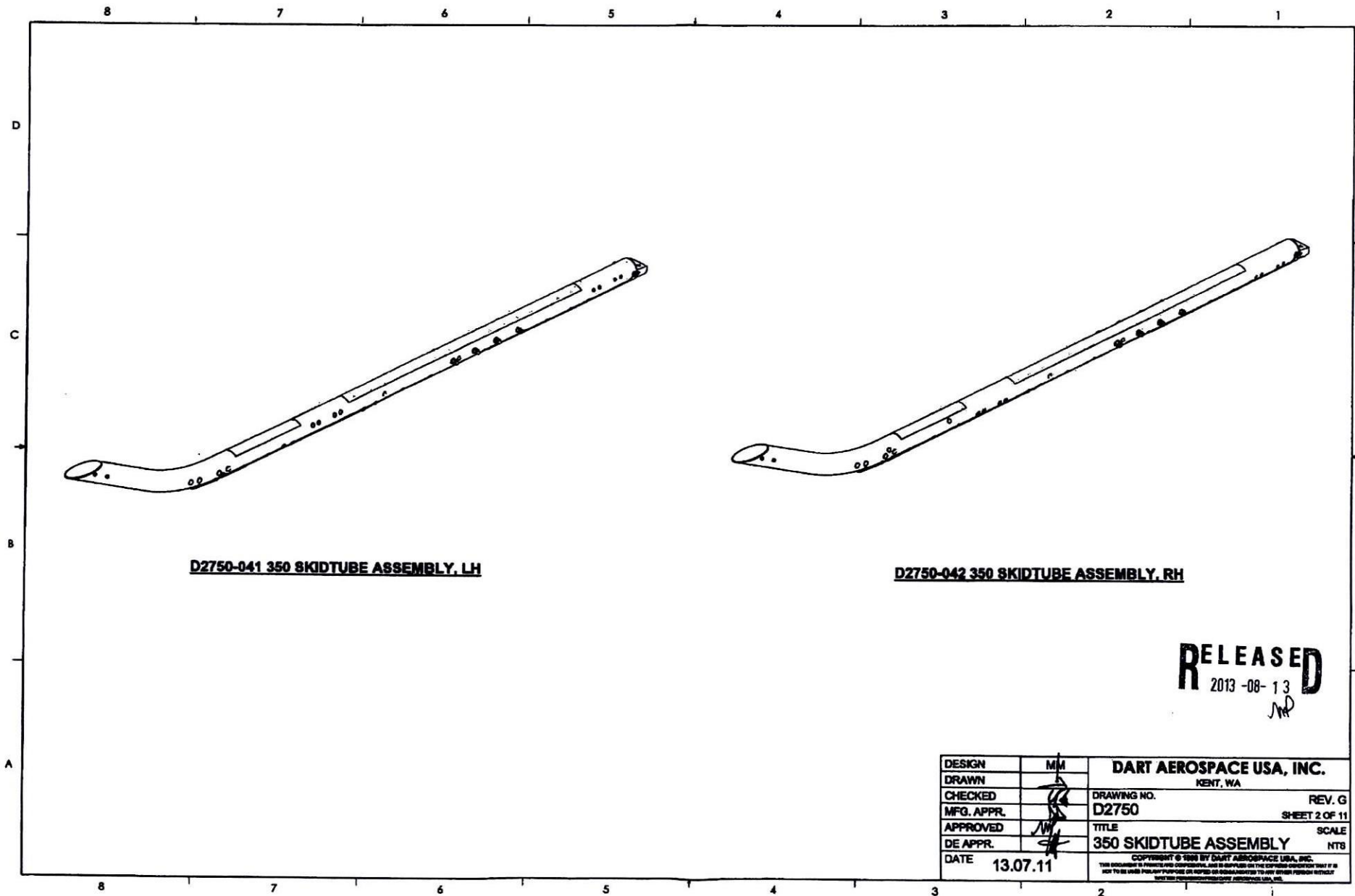
QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1	1			D2750-1	SKIDTUBE WELDMENT, LH
		1		D2750-2	SKIDTUBE WELDMENT, RH
			1	D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C8A	BOLT
4	4	4	4	AN8C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES (Ø0.297) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

G	CORRECTED TOLERANCE ON Ø0.500 THRU HOLE: IS +0.010/-0.000, WAS +0.100/-0.000 (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-AJ-5-B-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3; REASON: PART13-276 AND NCR13-2757	MB	13.07.11
F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL); WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H3L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2739 AND D2740	CP	08.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	08.09.01
A	NEW ISSUE	DS	08.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MM		
DRAWN	B		
CHECKED	J		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.07.11		

DART AEROSPACE USA, INC.
KENT, WA
DRAWING NO. D2750
TITLE 350 SKIDTUBE ASSEMBLY
REV. G
SHEET 1 OF 11
SCALE NTS
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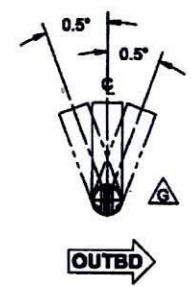
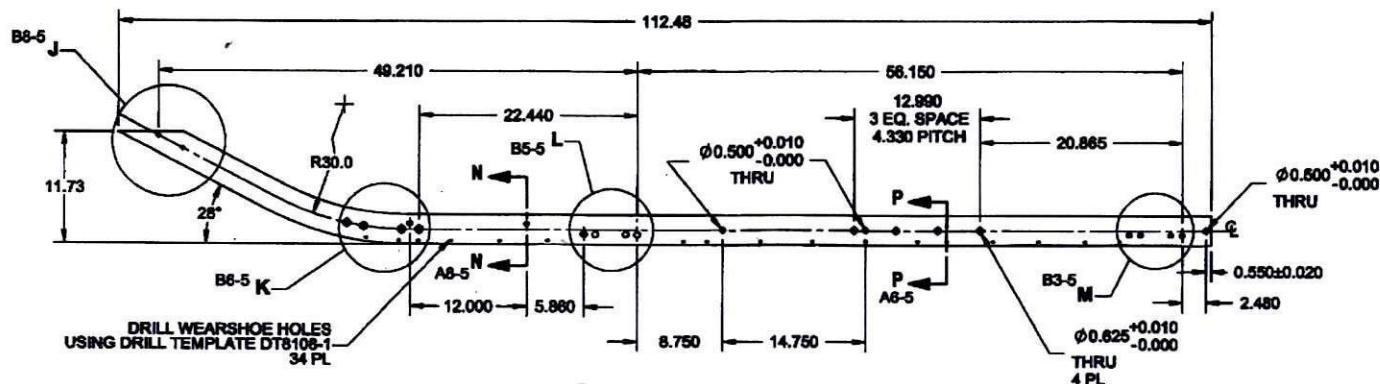
D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

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2013-08-13
JMD

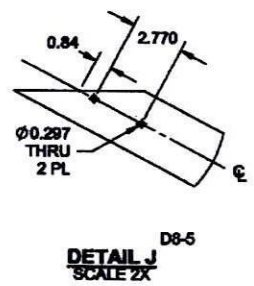
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DRAWN		KENT, WA	
CHECKED		DRAWING NO. D2750	REV. G
MFG. APPR.		SHEET 2 OF 11	
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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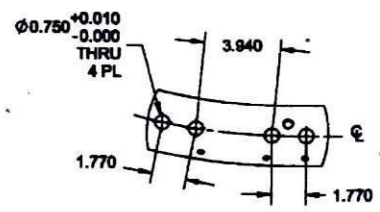


MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)

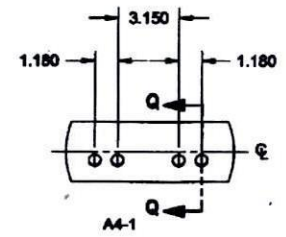
D2750-2 RH SKIDTUBE



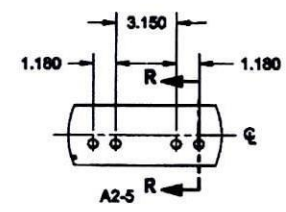
DETAIL J
SCALE 2X



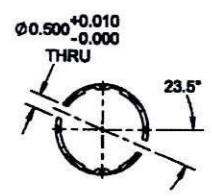
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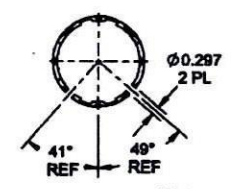
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SCALE 2X



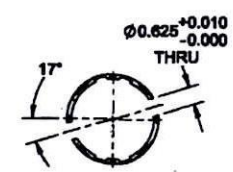
DETAIL M
SCALE 2X



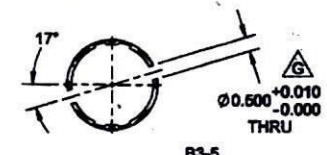
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



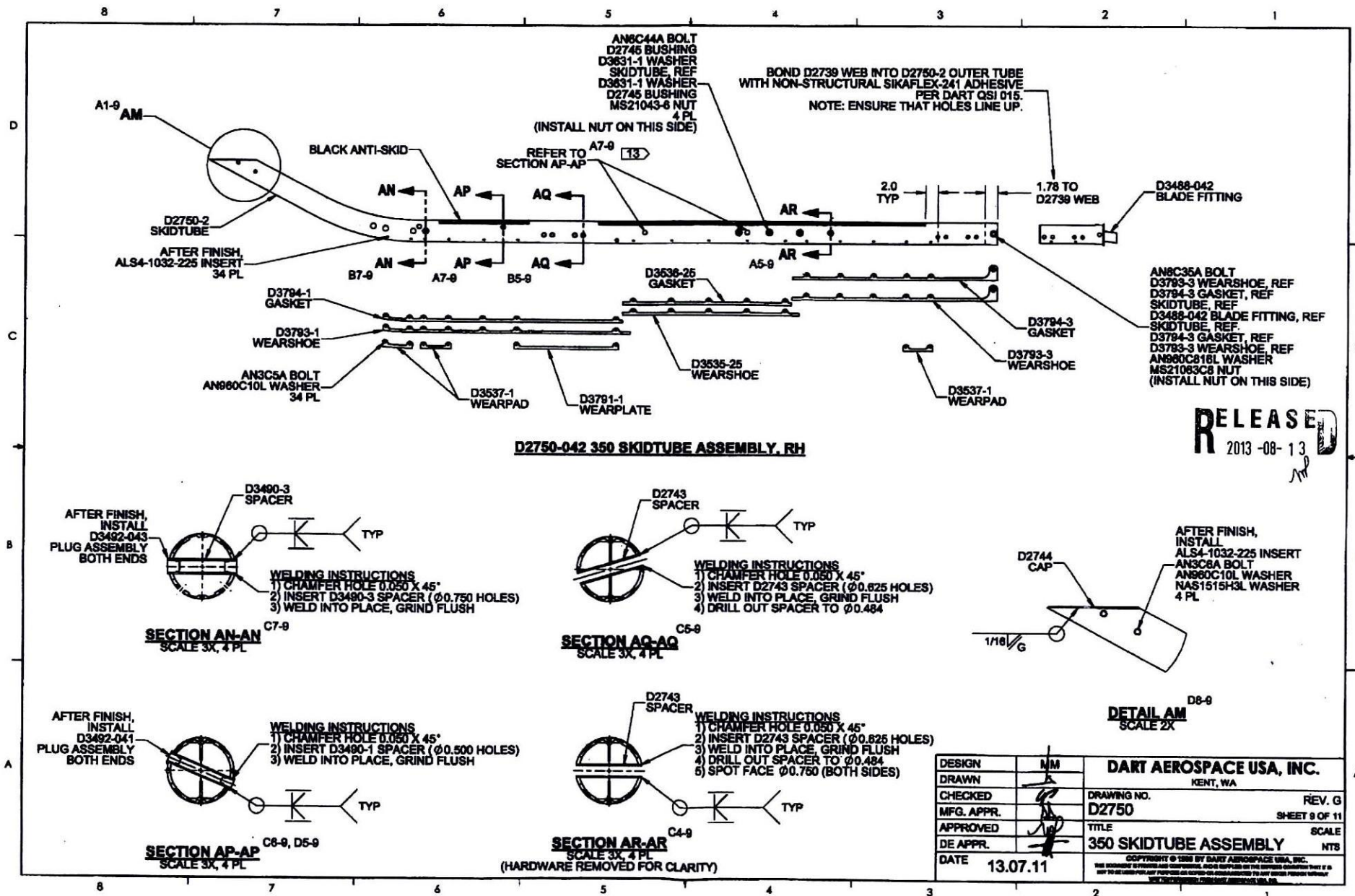
SECTION R-R
SCALE 3X, 4 PL

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DESIGN	MM	DART AEROSPACE USA, INC.
DRAWN		KENT, WA
CHECKED		DRAWING NO. D2750
MFG. APPR.		REV. G
APPROVED		SHEET 6 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	13.07.11	SCALE NTS

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039865**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO039865

PO Date: 5/10/18

Due Date: 5/11/18

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
MAY 10 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176068	D3391-023	Mid Tube Assembly	Firmed	5/11/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176070			Firmed	5/11/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:						2	0	2		\$250.00
2	174842	D350-636-011	Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.	Firmed	5/11/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	175050			Firmed	5/11/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
Sub Total:						2	0	2		\$450.00
3	175053	D350-636-012	Skidtube RH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.	Firmed	5/11/18	1 pcs	0 pcs	1 pcs	\$250.00/pcs	\$250.00
Grand Total:										\$950.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

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